

**2002 Base Year State Implementation Plan
Emissions Inventory for PM_{2.5} and Precursors
for the State of Delaware**

FINAL REPORT

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156 S. State St.
Dover, DE 19901



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John A. Hughes

Secretary, Department of Natural Resources and Environmental Control

James D. Werner

Director, Division of Air and Waste Management

Ali Mirzakhali, P.E.

Administrator, Air Quality Management Section

Ronald A. Amirkian

Program Manager, Air Quality Planning Branch

Project Manager & Editor

David F. Fees, P.E.

Manager, Emission Inventory Development (EID) Program

Principal Contributors (EID Program)

Marian A. Hitch

Senior Environmental Compliance Specialist

John L. Outten

Senior Environmental Scientist

Harry J. Jeudy

Engineer

Quality Assurance

John L. Sipple

Senior Scientist, Planning Branch

Phillip A. Wheeler

Senior Planner, Planning Branch

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EMISSION DATA FILES

DE 2002 PM Point 09102007.mdb
DE 2002 PM Nonpoint 11192007.mdb
DE 2002 PM Nonroad 07102007.mdb
DE 2002 PM Onroad 06132007.mdb
DE 2002 PM Natural 12122007.mdb

SECTION 2 - POINT SOURCES

2002 Point IPP.pdf
2002 PEI Inv TAP CAP i-STEPS Emission Factors.pdf
Activity Form Ammonia Refrigeration.pdf
Activity Form Black Top Facilities.pdf
Activity Form Diesel Generator.pdf
Activity Form EO Sterilization.pdf
Activity Form Example of Facility General.pdf
Activity Form Facility Cover Letter.pdf
Activity Form Small Combustion Sources.pdf
Administrative Completeness Determination Form.pdf
Comparison of EPA's Emissions Tracking System Emissions.pdf
Emission Comparisons and Operational Changes Tracking.pdf
Example of ACD.pdf
Example of Detailed Report.pdf
Example of Emission Summary and Certification Page.pdf
How Are We Doing Terminal Server.pdf
IPP_Point_121903.pdf
On-line Reporting Cover Letter.pdf
On-line Reporting Detailed Instructions.pdf
On-line Reporting Getting Started Instructions.pdf
On-line Reporting Issues Updates and FAQs.pdf
Workshop Presentation.pdf
AEI and TRI Comparison 051904.xls
Asphalt Plant PMx Calculations.xls
Coal PMx Calculations.xls
DE Area_Point SCC XWalk 3-18-04 JO.xls
Initial List of Facilities and Tracking Information.xls
New EPA Natural Gas PMx EFs.xls
Pechan Phase III Tracking.xls
PMx Emissions Using PM Calculator.xls
Residual Oil PMx Calculations.xls

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SECTION 3 – STATIONARY NON-POINT SOURCES

Ag Fertilizer Application 11-16-07.xls
Ag Pesticides 06-19-07.xls
Ag Production 11-14-07.xls
AIM Coatings 11-19-07.xls
Animal Husbandry 06-13-07.xls
Asphalt Paving 09-01-06.xls
Auto Refinishing 07-01-04.xls
Bakeries 05-11-04.xls
Catastrophic Accidental Releases 07-08-04.xls
Commercial Construction 05-11-04.xls
Commercial Cooking 07-06-04.xls
Commercial Fuel Combustion 08-24-06.xls
Consumer Products 12-17-04.xls
Dry Cleaners 07-06-04.xls
Gasoline Marketing 11-22-06.xls
Graphic Arts 09-12-06.xls
Inactive Landfills 07-07-04.xls
Industrial Adhesives 02-17-06.xls
Industrial Fuel Combustion 08-31-06.xls
Industrial Surface Coatings 07-08-04.xls
Land Clearing Debris Open Burning 07-29-04.xls
Leaking Underground Storage Tanks.xls
Miscellaneous NH₃ Sources 12-14-04.xls
Paved Road Dust 05-02-07.xls
Prescribed Burning 09-07-06.xls
Publicly Owned Treatment Works 09-12-06.xls
Residential Construction 04-25-07.xls
Residential Fuel Combustion 08-25-06.xls
Residential Open Burning 07-07-04.xls
Residential Wood Combustion 03-08-07.xls
Road Construction 05-11-04.xls
Sand and Gravel Operations 07-19-04.xls
Solvent Cleaning 07-07-04.xls
Structure Fires 09-11-06.xls
Traffic Markings 07-07-04.xls
Vehicle Fires 07-07-04.xls
Wildfires 09-07-06.xls
DE Area_IPP_0220.pdf
OMNI Technical Memorandum 1.pdf
OMNI Technical Memorandum 2.pdf
Phase III Area FR 5-23-2005.pdf
Residential Wood Combustion – OMNI report.pdf

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SECTION 4 – NON-ROAD SOURCES

MANEVU_NRD2002_NIF_030306_DE_only.mdb
OGV DE v7.mdb
OGV NJ&PA v4.mdb
Aircraft 09-29-06.xls
Dredging 10-17-06.xls
Ferries 10-20-06.xls
Locomotives 02-28-07.xls
Towboats 04-18-07.xls
TugAssist 04-18-07.xls
DE_Nrd_IPP_fnl.pdf
DE_2002_Nrd_Rpt_Dec04.pdf

SECTION 5 – ON-ROAD MOBILE SOURCES

2002 vehicle reg and input files.zip
DDOT2002_KS_SHP.zip
DDOT2002_NC_SHP.zip
DE_ExternalFiles2002.zip
DE_InputFiles_51904.zip
DE_OutputFiles_51904.zip
2002 Permanent Count Station Data.xls
2002_de_mnthlyvmtfac.xls
2002 Kent County Mobile Tables PM.xls
2002 New Castle County Mobile Tables PM.xls
2002 Sussex County Mobile Tables PM.xls
2002onroadrequest.pdf
2002onroadtable.pdf
DE onrd2002_fnlrpt.pdf
DE onrd_IPP_fnlv1.pdf

SECTION 6 – NATURAL SOURCES

Biogenics.xls
Lightning 06-03-05.xls
Windblown Dust 12-12-07.xls

SECTION 7 – QUALITY CONTROL/QUALITY ASSURANCE

PM Nonpoint Critical Check and Comments.mdb
PM Nonpoint Invalid Code Check.mdb
PM Nonpoint Noncritical Check.mdb
PM Nonroad Critical Check.mdb

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PM Nonroad Invalid Code Check.mdb
PM Nonroad Noncritical Check.mdb
PM Onroad Critical Check and Comments.mdb
PM Onroad Invalid Code Check.mdb
PM Onroad Noncritical Check.mdb
Point Critical Checks Summary Report.pdf
Point Emission Critical Checks Report.pdf
Point Emission Process Critical Checks Report.pdf
Point Emission Release Point Critical Checks Report.pdf
Point Emission Release Point Noncritical Checks Report.pdf
Point Invalid Code Quick Check Report.pdf
Point Noncritical Checks Summary Report.pdf
Point Release Point Statistics Report.pdf
State Comments on NEI Checker Reports for Point.pdf

ACRONYMS & ABBREVIATIONS

AAPFCO	American Plant Food Control Officials
ACD	administrative completeness determination
AIM	architectural and industrial maintenance
AP-42	EPA Compilation of Air Pollution Emission Factors
AQMS	Delaware Air Quality Management Section (DNREC)
ARP	Delaware Accidental Release Prevention Program (DNREC)
ASTM	American Society for Testing and Materials
ATP	Anti-tampering Program
ATV	all-terrain vehicle
BACM	best available control measures
BEA	Bureau of Economic Analysis
BEIS	Biogenic Emission Inventory System
BELD	Biogenic Emissions Landcover Database
BOC	Bureau of Census
BSFC	brake specific fuel consumption
C&D	Chesapeake and Delaware
CAF	county allocation factor
CAO	concentrated animal operation
CARB	California Air Resources Board
CBP	County Business Patterns
CD	compact disc
CE	control efficiency
CEM	continuous emission monitor
CERR	Consolidated Emissions Reporting Rule
CFR	Code of Federal Register
CG	cloud-to-ground
CH ₄	methane
CMLF	Cape May-Lewes Ferry
CMU	Carnegie-Mellon University
CMV	commercial marine vessel
CNG	compressed natural gas
CO	carbon monoxide
CO ₂	carbon dioxide
CTG	Control Techniques Guideline
cu yd	cubic yard
D&B	Dun & Bradstreet
DAA	Delaware Aeronautics Administration
DAFB	Dover Air Force Base
DARS	Data Attribute Rating System
DASS	Delaware Agricultural Statistics Service
DATAS	Delaware Air Toxics Assessment Study
DDA	Delaware Department of Agriculture
DDPR	Division of Parks and Recreation (DNREC)
DE	Delaware

ACRONYMS & ABBREVIATIONS continued

DE ANG	Delaware Air National Guard
DE ARNG	Delaware Army National Guard
DE DOL	Delaware Department of Labor
DE F&W	Division of Fish & Wildlife (DNREC)
DelDOT	Delaware Department of Transportation
DENS	Delaware Environmental Navigator System
DMV	Delaware Division of Motor Vehicles (DelDOT)
DNREC	Department of Natural Resources and Environmental Control
DOC	U.S. Department of Commerce
DOE	U.S. Department of Energy
DOF	Delaware Division of Forestry (DDA)
DPC	Delaware Population Consortium
DRBA	Delaware River and Bay Authority
DSC	Delaware State Climatologist
DSFM	Delaware State Fire Marshal
DSWC	Division of Soil and Water Conservation (DNREC)
DWT	dead weight tonnage
E&C	Engineering and Compliance Branch (DNREC-AQMS)
EDMS	Emissions and Dispersion Modeling System
EEA	European Environment Agency
EF	emission factor
EGAS	Economic Growth Analysis System
EGR	exhaust gas recirculation
EGU	electric generating unit
EIA	Energy Information Administration
EID	Delaware Emission Inventory Development Program (DNREC-AQMS)
EIIP	Emission Inventory Improvement Program
EO	ethylene oxide
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERG	Eastern Research Group
ETS	Emissions Tracking System
FAA	Federal Aviation Administration
FCI	fuel consumption index
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRE	Factor Information Retrieval System
FLF	fuel-loading factor
FP & GC	fuel pressure and gas cap test
g	gram
GAF	geographic allocation factor
GIS	geographical information system
GSE	ground support equipment
GTM	gross ton-miles

ACRONYMS & ABBREVIATIONS continued

GVWR	gross vehicle weight rating
HAP	hazardous air pollutant
HC	hydrocarbon
HDD	heating degree-day
HDGV	heavy-duty gas vehicle
HDV	heavy-duty vehicle
hp	horsepower
HPMS	Highway Performance Monitoring System
IC	intra-cloud
ICAO	International Civil Aviation Organization
IFO	Intermediate Fuel Oil
I/M	Inspection and Maintenance
IPP	Inventory Preparation Plan
KC	Kent County (Delaware)
LADCO	Lake Michigan Air Directors Consortium
LandGEM	Landfill Gas Emissions Model
lb	pound
LDGT	light-duty gas truck
LDGV	light-duty gas vehicle
LDT	light-duty truck
LDV	light-duty vehicle
LEV	low-emission vehicle
LFG	landfill gas
LPG	liquefied petroleum gas
LTO	landing/takeoff
LUST	leaking underground storage tank
MACT	maximum achievable control technology
MANE-VU	Mid-Atlantic – Northeast Visibility Union
MARAMA	Mid-Atlantic Regional Air Management Association
MC	method code (<i>i</i> -STEPS)
Mg	megagram
MMBtu	million British thermal units
MMT	manure management train
mph	miles per hour
MRI	Midwest Research Institute
MSW	municipal solid waste
N	nitrogen
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NASS	National Agricultural Statistics Service
NCC	New Castle County (Delaware)
NCDC	National Climatic Data Center
n.e.c.	not elsewhere classified
NEI	National Emissions Inventory

ACRONYMS & ABBREVIATIONS continued

NESHAP	National Emission Standards for Hazardous Air Pollutants
NFDC	National Fire Data Center
NH ₃	ammonia
NIF	NEI Input Format
NMOC	non-methane organic compound
NO	nitric oxide
NO _x	oxides of nitrogen
NPCA	National Paint and Coatings Association
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
NRCS	Natural Resources Conservation Service
OBD	on-board diagnostics
OEM	original equipment manufacturer
OGV	ocean-going vessel
OHV	off-highway vehicle
OIT	Office of Information Technology (DNREC)
OMNI	OMNI Environmental Services, Inc.
ORIS ID	Office of Regulatory Information System Identification
ORVR	on-board refueling vapor recovery
OTAQ	Office of Transportation Air Quality (USEPA)
OTC	Ozone Transport Commission
OTR	Ozone Transport Region
OWB	outdoor wood boiler
PCV	positive crankcase ventilation
pdf	portable document format
PE	precipitation-evaporation
Pechan	E.H. Pechan & Associates, Inc.
PEI	Periodic Emissions Inventory
PFC	portable fuel container
PIA	Printing Industries of America, Inc.
PM-CON	condensable particulate matter
PM ₁₀ -FIL	filterable portion of PM ₁₀ -PRI
PM _{2.5} -FIL	filterable portion of PM _{2.5} -PRI
PM _{2.5} -PRI	particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀ -PRI	particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
ppmw	parts per million by weight
POTW	publicly-owned treatment works
POW	Port of Wilmington
PRI	Public Research Institute
psi	pounds per square inch
PSM	particle size multiplier

ACRONYMS & ABBREVIATIONS continued

P/V	pressure/vacuum
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
R&D	research and development
RACT	reasonably available control technology
RE	rule effectiveness
RP	rule penetration
rpm	revolutions per minute
RSD	Regulatory Support Document
RSZ	reduced speed zone
RVP	Reid vapor pressure
RWC	residential wood combustion
SARA	Superfund Amendments and Reauthorization Act
SC	Sussex County (Delaware)
SCC	source classification code
SEPTA	Southeast Pennsylvania Transportation Authority
SI	spark ignition
SIC	Standard Industrial Classification code
SIP	State Implementation Plan
sL	silt loading
SM	Synthetic Minor permit classification
SO ₂	sulfur dioxide
STI	Sonoma Technology, Inc.
TCEQ	Texas Commission on Environmental Quality
TDM	travel demand model
Tg	teragram
TG	touch-and-go
THC	total hydrocarbons
TIM	time-in-mode
TMB	Delaware Tanks Management Branch (DNREC)
T/O	test only
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TPY	tons per year
TRI	Toxics Release Inventory
TSDF	treatment, storage, and disposal facility (hazardous waste)
TV	Title V permit classification
UDel	University of Delaware
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

ACRONYMS & ABBREVIATIONS continued

VMT	vehicle miles traveled
VOC	volatile organic compound
WRAP	Western Regional Air Partnership
WWTP	wastewater treatment plant